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ABSTRACT

This action research study examined how peer tutoring of students with disabilities causes changes in the attitudes of high school peer tutors. Data were gathered through surveys, interviews, and open-ended questions completed by 18 high school peer tutors. Results showed that the peer tutors involved held positive attitudes and beliefs toward individuals with disabilities. Tutors were members of an elective peer tutoring class and tutored students with moderate mental handicaps in a self-contained middle school class. Many tutors reported that their feelings toward people with disabilities prior to the class were generally fearful. The peer tutor survey, interview protocol, and open-ended questions are appended. (Contains 21 references.) (DB)

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Running head: EFFECTS OF PEER TUTORING

The Effects of Peer Tutoring on the Attitudes of Nondisabled Peers

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Abstract

Given that the personal needs of students with disabilities may never allow them all to be fully included in the general education setting, it is important that additional programs be studied to facilitate interaction between students with disabilities and their same-age peers. Peer tutoring has been found to improve academic and social skills in students with and without disabilities. This action research study examined how peer tutoring causes changes in the attitudes of peer tutors. Data was gathered through surveys, interviews, and open-ended questions that were completed by 18 high school peer tutors. Results showed that the peer tutors involved held positive attitudes and beliefs toward individuals with disabilities. Further implications and suggestions for future research are also discussed.

Introduction

A common goal of parents of children with disabilities is to see their child accepted by his or her nondisabled peers. More importantly, parents want to see their child form lasting and meaningful relationships with their same-age peers. Unfortunately, most nondisabled children have little to no contact with individuals with disabilities. As a result, many children carry with them numerous misconceptions that may prevent them from ever forming a meaningful relationship with an individual with a disability. This action research study reviewed the literature concerning peer tutoring and examined the benefits that peer tutoring has been found to have on the academic and social skills of students with disabilities as well as their nondisabled peers. Additionally, I examined the attitudes of 18 peer tutors working in a self-contained class for students with moderate mental disabilities. Through surveys, interviews, and open-ended questions completed by the peer tutors, I examined how these students perceived their attitudes toward individuals with disabilities and how the peer tutors believed their attitudes changed as a result of their involvement as peer tutors.

Literature Review

Due to a new awareness of parents of children with disabilities and their increased involvement in shaping legislative issues affecting the education of their children, many changes have occurred in recent years that have greatly affected the educational policies that deal with students with disabilities. Given that these parents have long been concerned with the segregation of their children, it is no wonder that inclusion has become a leading issue in educational research. And while the full involvement of students with disabilities in the general education environment appears to be a

worthwhile goal, questions arise as to the benefits that occur for students with disabilities in the general education environment (Sale & Carey, 1995).

One might also ask if nondisabled students benefit socially and academically when students with disabilities are included in the general education environment. Alper and Ryndak (1992) believe that students in the general education environment who attend inclusive schools have an opportunity to learn about and grow to appreciate the differences that exist in all of us while students in segregated schools miss out on many of the same opportunities. But can inclusion rid us of all that is wrong in special education today?

Sale and Carey (1995) found that while students with disabilities were fully included in the school they studied, it did not change the way their nondisabled peers viewed them. When students were asked to nominate children who were "most liked" and those who were "least liked," the findings were quite telling. Students with disabilities received considerably more nominations for the title of "least liked" by their peers while receiving very few nominations for "most liked." The authors concluded that simply including students with disabilities in the general education environment did not change the way their peers viewed them socially. This finding seems to suggest that inclusion alone is not enough to bring about full acceptance of students with disabilities by their peers.

While it may seem that many teachers and researchers are demanding inclusion for all students, it must be acknowledged that the law does not support this belief. The Individuals with Disabilities Education Act Amendments of 1997 (IDEA 97) "requires special education funding to be 'placement-neutral,' meaning that states cannot promote a

particular kind of placement" ("Getting the Right IDEA," 1998, p. 9). In other words, students must be placed in the setting that is most appropriate for each individual student. If many students are to be placed in self-contained classrooms for their own benefit, teachers and parents must find ways to increase social interaction with their nondisabled peers. Peer tutoring may be one solution to this problem.

Peer tutoring is one instructional method that has been found to benefit students in both special education and general education environments. Defined as "a procedure in which children teach academic tasks to other children," (Franca, Kerr, Reitz, & Lambert, 1990, p. 109-110) peer tutoring has been used to teach academic skills (Barone & Taylor, 1996), encourage friendships (Stainback, Stainback, & Wilkinson, 1992), increase participation of students with disabilities in gym class (Houston-Wilson, Lieberman, Horton, & Kasser, 1997), decrease problematic behaviors (Martella, Marchand-Martella, Miller, Young, & Macfarlane, 1995), and facilitate community inclusion of students with disabilities (Longwill & Kleinert, 1998). Teachers and researchers believe peer tutoring can benefit students with disabilities in all these areas and more. Since the law and research alike suggest that simply including a student in the general education environment may not adequately benefit all students, additional methods such as peer tutoring must be developed.

One of the most widely documented benefits of peer tutoring involves the improvement of academic skills. In a study involving 14 elementary students with special needs, Ezell, Kohler, and Strain (1994) found that peer tutoring improved reading comprehension and accuracy. Given the varying needs and abilities of the students

involved, interventions and educational materials were adapted for each student. Despite the differences in interventions, all students benefited from peer tutoring.

In a study involving three students with autism who were fully included in the general education environment, the researchers (Kamps, Barbetta, Leonard, & Delquadri, 1994) found that peer tutoring significantly increased the reading rates of the students with autism. It was found that all three students' reading comprehension scores increased significantly from baseline as well. Potentially more significant is the impact that peer tutoring had on the interaction between the students with autism and their peers. The data showed that on average, interaction during free time increased considerably between the students with autism and their peers. Furthermore, 88% of the peers involved reported the belief that peer tutoring improved their relationships with their peers.

Peer tutoring has been found to be just as successful when used to teach math skills. Schloss, Kobza, and Alper (1997) used peer tutors to teach the next-dollar strategy to secondary students with moderate mental handicaps. The next-dollar strategy is one in which students are taught to pay for purchases by giving one dollar over the sale amount. For example, if the purchase total is $4.30, the student is taught to hand the cashier five dollars. The results of this study showed that the use of peer tutoring was effective in teaching the next-dollar strategy to the students in the study. Though not studied empirically, the examiners noted that tutors demonstrated appropriate responses to student answers and off-task behavior more frequently as the intervention progressed. The researchers theorize that specific social skills may have developed as a result of the intervention.

The perception that peer tutoring may affect social skills and attitudes toward individuals with disabilities while helping students improve their academic skills has been reported in other studies as well. Using teacher feedback gathered in interviews with 20 general education teachers, Phillips, Fuchs, and Fuchs (1994) found that peer tutoring and curriculum-based measurement improved the students' academic skills when compared to instructional methods used prior to the intervention. Curriculum-based measurement was defined in this study as "a set of assessment methods for routinely indexing student proficiency in the school curriculum over time" (p. 420). With the use of a Likert scale, 17 of the 20 teachers interviewed reported that those involved in the peer tutoring program showed an increase in their enthusiasm for learning. All 20 teachers also reported that their students enjoyed the peer tutoring program. While the researchers acknowledge that there are flaws to this study, it surely demonstrates the need for additional study into the effects peer tutoring can have on the social skills and attitudes of the students involved in the program.

Researchers have attempted to prove that peer tutoring can be used to improve the social skills of both tutor and tutee (Gumpel & Frank, 1999). Briggs (1998) tells of a personal experience in which Shirley, a student viewed by others as an outcast, volunteered to assist in the school tutoring program. To her surprise, Briggs found that the other students accepted Shirley and assisted her as she became acquainted with the program. In addition, Shirley's school attendance increased dramatically and her behavior improved.

In an empirical study of 203 elementary students, it was found that social skills programs greatly increased the social interaction of students with autism (Kamps et al.,

1998). Social skills groups consisted of peers assisting each other in academic and social activities. While 24% of the students reported that the tutoring program helped them to gain knowledge, a majority indicated that they had enjoyed the activities with the students with disabilities. In fact, many of the students were excited about working with their peers with disabilities.

Given the current push to include more students with disabilities in the general education curriculum coupled with the desire of parents of children with disabilities to increase the interaction that their children experience with their nondisabled peers, many researchers have begun looking more closely at how peer tutoring and other programs affect the attitudes of children in the general education environment. When the principal at Ward-Highland Elementary School in Ocala, Florida noticed that many of the students with disabilities in his school were being mistreated by other students, he decided to initiate a program that would encourage interaction between all students and possibly change the negative attitudes that many of the students had about disabilities (Trent, 1993). With the aid of the school's special education teachers, a program was designed to increase interaction between students with and without disabilities and to increase all students' understanding of and sensitivity toward individuals with disabilities. The results of a survey designed to assess the effectiveness of the program found that the students in the program gained knowledge about their peers with disabilities. In addition, teacher observations noted that many students were more likely to interact with a peer with a disability once the program was completed.

Other empirical studies have been conducted to examine the effects of programs designed to encourage social interaction between students with disabilities and their

nondisabled peers. In a study of 183 students in the general education environment, Kishi and Meyer (1994) compared the attitudes of students who participated in a school-wide social interaction program to those who attended the same school but did not participate in the program. In addition, these two groups were compared to a group of students who attended a school that did not educate any students with disabilities. The data from a survey designed to measure attitudes found that the students in the social interaction program displayed more positive attitudes toward individuals with disabilities and greater social contact with individuals with disabilities well after the program was completed.

While social interaction programs and peer tutoring programs are fundamentally different in many ways, research has shown that both programs can produce similar results (Haring, Breen, Pitts-Conway, Lee, & Gaylord-Ross, 1987). In comparing the two programs, Haring et al. found that both produced similar, positive results. Following the two programs, the data showed that students in both programs displayed attitudes that were positive toward their interactions with peers with disabilities.

Given such research, it is important that studies be conducted to examine the effects of peer tutoring on the attitudes of nondisabled peers more closely. Helmstetter, Peck, and Giangreco (1994) conducted a survey in which they measured the attitudes of 166 high school students who interacted regularly with at least one peer with a significant disability. The interactions had to have occurred for a minimum of 15 minutes, at least once a week, for at least three months of the school year in which the study was conducted. Using the most current research data, Helmstetter et al. developed a survey that assessed 10 areas dealing with attitudes that may have developed as a result of the

students' interactions. With one exception, the results showed that the students surveyed agreed with the statements expressing benefits from the interaction with students with disabilities. All students disagreed with statements expressing negative benefits for their interactions. Analysis of the data suggested that students recognized seven different positive outcomes resulting from their experiences with students with disabilities: "(a) increased responsiveness to the needs of other people; (b) valuing relationships with people who have disabilities; (c) personal development; (d) increased tolerance of other people; (e) development of personal values; (f) increased appreciation of human diversity; and (g) positive changes in personal status with peers" (p. 273). While this data suggests that frequent interactions between students with disabilities and their nondisabled peers benefits the attitudes of students without disabilities greatly, the researchers suggest that formal training may produce even greater changes in attitudes. This study certainly points to the need for further study into the effects of peer tutoring on the attitudes of students without disabilities.

Many factors exist that warrant the study and use of peer tutoring with students with disabilities. Peer tutoring has been shown to improve the academic and social skills of tutor and tutee alike. Greenwood and Terry (1993) found in their study that those in the general education environment who participated in a peer tutoring program were less likely to be placed in special education. Possibly more important are the interactions and changes in attitude that peer tutoring can facilitate. And since legal and ethical issues make it so vital that students with disabilities be given the opportunity to interact with their same-age peers regardless of their educational placement, peer tutoring can be an

invaluable resource to teachers. Given all that peer tutoring can do for all students, it demands to be examined more closely.

Method

Description of Participants

The participants in this study were high school general education students who had signed up to take a peer tutoring class for an elective credit toward their diploma. The students worked as peer tutors in a middle school, self-contained class of four students with moderate mental handicaps. The peer tutoring class can be taken for one semester or a full year. The peer tutors attended my class each school day for one period consisting of 55 minutes. The large bulk of the peer tutors' time was spent working with another student with a disability in either the self-contained class or in a class in the general education environment. Peer tutors completed class assignments dealing with disability awareness, legal issues, and instructional practices. The setting was a combined middle/high school in an urban setting in the state of Indiana.

Materials

The materials used in this study consisted of a survey, an interview, and weekly, open-ended questions that were completed by each peer tutor. The survey (see Appendix A) consisted of items taken from a survey used by Helmstetter et al. (1994). This survey was designed using a five point Likert scale. The interview (see Appendix B) was given approximately one week after the survey had been completed. All interviews were recorded and transcribed for analysis. The students were given one open-ended question (see Appendix C) each week for a period of five weeks and asked to complete it on their own time and return it by the end of the week.

Procedure

The major focus of this action research study dealt with the effects peer tutoring had on the attitudes of the peer tutors toward students with significant disabilities. Data for this study was gathered using a survey, an interview, and weekly, open-ended questions that were completed by each peer tutor. The survey was given to each peer tutor once he or she had completed at least six weeks of the class. This criterion accounted for any students who began the class at the semester break, as opposed to those whom had begun the class at the beginning of the school year. The interview was completed following the survey to investigate patterns that arose in the survey. Finally, the weekly questions were used to examine patterns in the attitudes of the peer tutors and changes that occurred in their attitudes as they continued through the class. An analysis was conducted to determine the mean response for each survey question. In addition, the percentage of responses for each level on the Likert scale was calculated to demonstrate the consistency of responses among the peer tutors. Finally, patterns were developed among the responses to the interview and open-ended questions. These patterns were used to support and clarify the results of this classroom action research study. Taken as a whole, this data offers important suggestions concerning the effects that peer tutoring has on the attitudes that the peers hold toward individuals with disabilities.

Results

Of the 18 peer tutors enrolled in the class, all students consented to participate in this action research study. Of the 18 students, only two began the class at the beginning of the second semester. These two students were not asked to provide any data until they had spent six weeks in the class. All other students began providing data at the beginning

of the second semester. Completed surveys, interviews, and weekly questions were obtained from all 18 students.

The mean response was calculated for each of the 20 questions of the survey. The percentage of responses for each Likert category was calculated as well. A comparison of these results can be found in Table 1.

Table 1

Peer Tutor Survey Results (Percentage of Respondents by Category)

Question	Strongly Agree 5	4	3	2	Strongly Disagree 1	Mean Answer
1. I now consider students with disabilities as being more like me, than different from me.	78	22	0	0	0	4.78
2. I am more accepting of the limitations of other (nondisabled) people.	56	17	17	6	6	4.11
3. I learned something about myself.	61	33	6	0	0	4.56
4. I established a friendship with a person with a disability.	94	6	0	0	0	4.94
5. I realize that students with disabilities accept me for who I am.	72	22	6	0	0	4.67
6. I am more likely to help students with disabilities.	94	6	0	0	0	4.94
7. I am more likely to help people, in general, who are disabled.	67	28	6	0	0	4.61
8. I am more likely to help nondisabled people.	39	28	28	6	0	3.94
9. I learned something new from a person with a disability.	83	17	0	0	0	4.83
10. I had a good educational experience.	89	11	0	0	0	4.89
11. I am a more responsible person.	56	33	11	0	0	4.44
12. I am better at teaching others.	33	39	28	0	0	4.06
13. I was embarrassed to be seen with the student.	0	0	11	6	83	1.28

(table continues)

Table 1. (continued)

Question	Strongly Agree 5	4	3	2	Strongly Disagree 1	Mean Answer
14. The student with a disability did things that embarrassed me in front of others.	0	0	11	6	83	1.28
15. The student with a disability demanded more of me than I felt comfortable with.	0	0	17	11	72	1.44
16. I was teased by other students.	0	0	0	6	94	1.06
17. I lost friends.	0	0	0	0	100	1
18. In the beginning, I was scared.	6	67	6	17	6	3.5
19. I missed out on other, more valuable educational experiences.	0	0	0	11	89	1.11
20. At first, I did not think I would learn much in this class.	0	17	22	17	44	2.11

Questions one through twelve of the survey dealt with positive outcomes that may have come out of student interactions. Questions 13 through 20, however, addressed negative outcomes that may have resulted from the peer tutors' interactions with students with disabilities. My belief was that, on average, responses for positive statements and negative statements would fall at the opposite ends of the Likert scale. With a mean response of 4.56 for all positive statements and 1.60 for all negative statements, this belief was affirmed. The data suggests that peer tutoring has a positive effect on the attitude of nondisabled peers. The only significant discrepancy was a mean response of 3.5 for question 18, which stated, "In the beginning, I was scared." Given that this question was the only negative statement to score a mean response above three, it stands out as an interesting aberration and will be addressed further once all the data has been fully addressed.

In an effort to add some depth to the data generated by the survey, each peer tutor was interviewed shortly after the surveys had been completed. The interviews were analyzed and answers were coded into common themes that developed out of the peer tutors' answers. Table 2 shows the themes that developed and the percentage of answers that fell into each theme. Themes were also separated into positive and negative responses.

Table 2

Peer Tutor Interview Results (Percentage of Respondent by Category)

Question	Positive Response	%	Negative Response	%
1. How would you describe your feelings or attitudes toward individuals with disabilities before you took this class?	Positive	22	Scared	44
	Interested	11	Ignorant	11
	Sympathetic	6	Uncomfortable	6
2. Did this class change the way you feel about individuals with disabilities? If so, how did your feelings change?	Gained an understanding	22	Felt sorry for students	6
	Already positive	17		
	Gained an appreciation	11		
	Gained a friend	11		
	Saw students as capable	11		
	Saw students as "normal"	11		
	Gained respect	6		
	Felt happy	6		
3. What things about this class or your experiences with the students bothered you?	Nothing	72	Patience required by students	11

(table continues)

Table 2. (continued)

Question	Positive Response	%	Negative Response	%
			Unsure how to act	6
			Felt sorry for students	6
			Drooling of one student	6
4. What, if anything, did you learn from this class?	Patience	44		
	See students as "normal" people	33		
	How to work with students	11		
	Learned about disabilities	11		
5. Will you use anything you learned in this class after this class is over? If so, what is it you will use?	Knowledge to assist students	61		
	Will be more open	17		
	Patience	11		
	Respect	6		
	Will continue friendships	6		

Again, the responses given by the peer tutors were extremely positive. Negative responses tended to address understandable concerns that most students would have at the beginning of such a class. These concerns ranged from being unsure how to act toward the students to not knowing how much patience would be required to work with students with significant disabilities. As was observed in the survey results, a significant number of students (44%) stated that they were scared when the class began. Interestingly, though, 61% of the peer tutors stated that they felt they now have the knowledge to assist an individual with a disability and would feel comfortable doing so. Furthermore, 72%

stated that, looking back, nothing about the class or students bothered them. Again, these results suggest that this peer tutoring class had a significant impact on the attitudes of the peer tutors.

In a further attempt to gather data and observe the development of the peer tutors' attitudes over time, each peer tutor was asked to complete a weekly, open-ended question dealing with issues surrounding individuals with disabilities. Responses to these questions can be found in Table 3.

Table 3

Peer Tutor Open-Ended Questions Results (Percentage of Respondent by Category)

Question	Response	%
1. What do you hope to learn from this class this semester?	Learn about the students on a personal level	39
	Learn about disabilities	22
	Learn how to help students	22
	Learn patience	11
	Learn to not feel bad About the students' disabilities	6
2. Do you think individuals with learning disabilities deserve to have their privacy protected? Should they be able to keep their learning disability private? Why or why not?	Yes, but teachers and others who can help the students should know	61
	Yes, privacy should be protected without question	39
3. Do you think it is appropriate to use the word "retarded" to refer to others in an insulting way? Is such a statement appropriate? Why or why not?	No, it disrespects people with disabilities	72
	No, people should not be categorized by their intellectual ability	11
	No, it is an offensive word	6
	Subject did not fully answer question	11

(table continues)

Table 3. (continued)

Question	Response	%
4. How do you think individuals with disabilities are portrayed on television, in the movies, and in the print media? Are people treated differently depending on their specific disability?	As something bad	39
	Treated fairly	22
	As an object of humor	17
	As a hero	6
	As an exaggeration	6
	Subject did not fully answer question	11
5. What have you learned so far in this class? Is it what you expected to learn? Explain.	Patience	56
	How to help students with disabilities	44
	People with disabilities are their equals	33
	Facts about disabilities	22
	People with disabilities can do so much	6
	Surprised by how much they learned	39

The intent of these questions was to encourage the peer tutors to use the knowledge they gained from this class to address broader issues dealing with individuals with disabilities. My goal was to see a new understanding develop that would suggest a positive attitude among the peer tutors. Based on their responses, the peer tutors appear to have developed just such an attitude. While their responses vary, many seem to have used their new understanding to consider such issues as privacy, media portrayal, and respect toward individuals with disabilities. Their responses suggest an overall attitude of respect for individuals with disabilities.

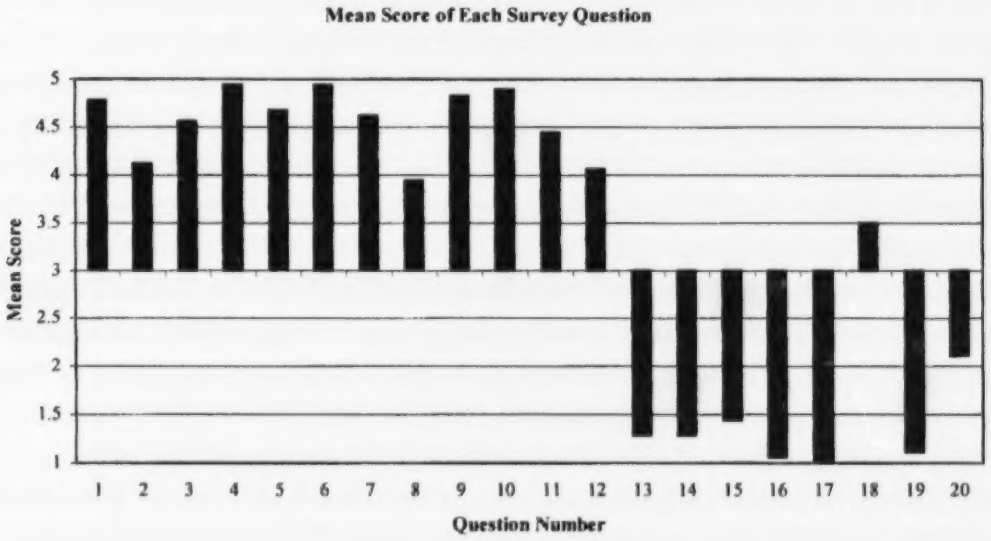
Discussion

Interpretation

Taken as a whole, the data presents overwhelming evidence that peer tutoring has a positive effect on the attitudes of nondisabled peers. At the foundation of this argument is the survey. On average, a very high percentage of peer tutors reported positive outcomes from this class. In contrast, very few reported any negative outcomes resulting

from the class. This trend can be seen in Figure 1. Questions one through twelve address positive outcomes while questions 13 through 20 address negative outcomes.

Figure 1



As can be seen in Figure 1, the peer tutors surveyed reported that they had experienced many positive outcomes as a result of this peer tutoring class. Receiving the highest ratings were statements such as:

- I established a friendship with a person with a disability.
- I am more likely to help students with disabilities.
- I learned something new from a person with a disability.
- I had a good educational experience.

In contrast, the peer tutors reported almost no negative outcomes from this class. As mentioned earlier, only statement 18, "In the beginning, I was scared" received a high

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rating. These trends, as well as others, can be further supported with peer tutor responses from the interview and weekly questions.

When asked during the interview to describe their feelings or attitudes toward individuals with disabilities before they took this class, the most frequent response given by the peer tutors was that they were scared. One student responded, "Before this class I was scared. I didn't know how to react to them because of their disabilities." The fact that most students felt some level of fear at the beginning of this peer tutoring class is perfectly understandable. Important to this action research study, however, is how the peer tutors' attitudes changed after the class began. When asked how their attitudes changed, many positive responses were given:

> "They changed after the first day of this class because I realized there was nothing to be scared of and now the kids are my friends."
>
> "I didn't think that they were as able to do everything that I can do but I think that they can do even more."
>
> "...when I learned about them I wasn't scared of them anymore. I didn't think they were different."
>
> "I understand them more and like working with them."

This change in attitude and increase in understanding can be seen in the answers that were given for the weekly, open-ended questions as well. When asked if it was appropriate to use the word "retarded" in an insulting way, every peer tutor felt that it was inappropriate. This class may have greatly affected how many of them will use this word in the future:

> "I really think that calling someone [retarded] is inappropriate. Before I didn't care and I used that word like it was nothing, but now since I have had this class, I think that is kinda [sic] wrong. I do still catch myself from time to time saying it, but then I get mad at myself cuz [sic] I know it's wrong."

Considering the results from the surveys, interviews, and open-ended questions, it is obvious that the students in this class learned a great deal. Attitudes toward individuals with disabilities certainly changed considerably. In many ways, the data is overwhelmingly positive. Possibly most significant, however, is how surprised the peer tutors were to realize how much they had learned:

> "In this class I've actually learned a lot more than I expected to. I not only learned how to work with students as individuals, but also as a team. I now know how to help and teach others in daily activities and take the time to learn and understand my peers."
>
> "I think this class has had the biggest impact on me. I have learned so much from these kids and from the class – things I will take with me everywhere I go."
>
> "This class has given me more than I ever expected, it has given me a new positive outlook. Thank you for that!"

Implications

The results of this action research study imply that peer tutoring affects the attitudes of nondisabled peers in a positive manner. Of the 18 peer tutors surveyed, every tutor on average expressed very positive outcomes as a result of this peer tutoring class. When given a chance to express their thoughts and beliefs through an interview and open-ended questions, the vast majority of peer tutors spoke of ways in which their

attitudes toward individuals with disabilities had changed. These results are supported by the literature as well. Both Trent (1993) and Kishi and Meyer (1994) found that programs designed to increase interaction and understanding between students with disabilities and their nondisabled peers had a significant effect on the attitudes of the nondisabled peers. Trent even found that the students appeared more likely to continue their interactions after the program was completed.

As mentioned earlier, the survey items used in this action research were taken from a study conducted by Helmstetter et al. (1994). While discussing their findings, Helmstetter et al. expressed the belief that a formal program similar to a this peer tutoring class might have an especially significant impact on the attitudes of nondisabled peers: "These findings suggest that some students may benefit from receiving additional training and/or more extensive introduction and orientation to the personal characteristics and support needs of the individual students with disabilities with whom they are developing relationships" (p. 274). This belief stems from the fact that many students expressed discomfort due to their lack of knowledge concerning how to talk to and interact with students with disabilities. These findings are supported by this action research study. Students participating in this action research study also expressed concerns they had when they began the class. The most common concern was a simple fear that they had due to a lack of understanding or ignorance. As Helmstetter et al. suspected, the training that the students received in this peer tutoring class helped the peer tutors alleviate their fears and gain the knowledge they needed to fully interact with students with disabilities.

While this action research study does not possess the characteristics necessary to verify the results of these empirical studies, it does offer some support. The peer tutors certainly experienced a positive change in their attitudes toward individuals with disabilities. But while this question has been well answered, other questions have arisen in its place. For example, while it is well documented that the peer tutors have all developed positive attitudes toward individuals with disabilities, did they already have some level of understanding and acceptance before they took this class? Would a student with an entirely negative attitude ever have even taken this class? Other questions have arisen concerning the peer tutors once this class has ended. Will the increased interaction between the students continue? Will the friendships that have developed continue? While these questions cannot be answered here, they certainly warrant further investigation.

Plan of Action

Important to any action research study is a plan that encourages continued study and a sharing of ideas. Considering the questions that this action research study has uncovered, I will continue to examine this topic. It would be interesting to see if the relationships that have developed in this class continue. Since I will be able to maintain informal relationships with the peer tutors after the class is over, it will be interesting to speak with them occasionally to see if their new relationships with students with disabilities continue.

Given the results of this action research study, I believe it is important for me to use these results to modify the curriculum that I have developed for this peer tutoring class. Specifically, many students expressed feeling scared when they began this class.

While this fear subsided, it may have hampered the learning process in the beginning of the class. I will look at ways that I can address this fear at the beginning of the class and help the peer tutors become more comfortable so that all students will benefit to the greatest degree.

It is also very important that the findings of this action research be shared. While many of the buildings in my school district have peer tutoring programs, many still do not. Furthermore, peer tutoring has only been used with students with significant disabilities in my school district. I believe peer tutoring can be just as successful with other students as well. I would like to share my findings with others to encourage them to implement a peer tutoring program. It is important that other students be given the opportunities that such a program has to offer.

Suggestions for Future Research

Given the questions that have arisen during this action research study, I have two suggestions for future research. First of all, it may be beneficial to develop a survey that can be given to the peer tutors on the first day of class and again toward the end of the class. This would provide a baseline that could be used to examine exactly how the peer tutors' attitudes changed. While this action research study was able to document positive attitudes in each of the peer tutors involved, it did not possess the characteristics necessary to document just how much these attitudes changed.

Similarly, it would be beneficial to know why each peer tutor chose to take this class. This might allow a researcher to examine what types of students are willing to take a peer tutoring class in the first place. Are we missing out on the students whose attitudes

truly need changing? Future research may allow these questions to be answered. In turn, a greater number of students may be able to reap the benefits of a peer tutoring class.

Summary

Given that full inclusion is not appropriate for all students, it is vital that other methods be used to encourage interaction between students with disabilities and their peers. Furthermore, since it has been found that inclusion is not necessarily enough to change the attitudes that students in the general education environment have toward their peers with disabilities, it is important that peer tutoring be researched to determine its value in changing attitudes for the better. This action research study examined the perceived attitudes of peer tutors and found that significant change occurred. The peer tutors involved found that their eyes and minds were opened to a new understanding of students who were more like them than different. They also found that students with disabilities had much to offer them and others. Best of all, the peer tutors found some new friends. Still, many questions exist. Research must continue, focusing on the full extent to which attitudes change and ways that other students can be reached and encouraged to participate in a peer tutoring program.

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Appendix A

Peer Tutor Survey

Below are some statements that might describe attitudes that you have developed or events that occurred as a result of this class. Please read each statement carefully and circle the answer that most closely resembles the level to which you agree or disagree with the statement.

1) I now consider students with disabilities as being more like me, than different from me.
   1 – I strongly disagree with this statement
   2 – I mildly disagree with this statement
   3 – I neither agree nor disagree with this statement
   4 – I mildly agree with this statement
   5 – I strongly agree with this statement

2) I am more accepting of the limitations of other (nondisabled) people.
   1 – I strongly disagree with this statement
   2 – I mildly disagree with this statement
   3 – I neither agree nor disagree with this statement
   4 – I mildly agree with this statement
   5 – I strongly agree with this statement

3) I learned something about myself.
   1 – I strongly disagree with this statement
   2 – I mildly disagree with this statement
   3 – I neither agree nor disagree with this statement
   4 – I mildly agree with this statement
   5 – I strongly agree with this statement

4) I established a friendship with a person with a disability.
   1 – I strongly disagree with this statement
   2 – I mildly disagree with this statement
   3 – I neither agree nor disagree with this statement
   4 – I mildly agree with this statement
   5 – I strongly agree with this statement

5) I realize that students with disabilities accept me for who I am.
   1 – I strongly disagree with this statement
   2 – I mildly disagree with this statement
   3 – I neither agree nor disagree with this statement
   4 – I mildly agree with this statement
   5 – I strongly agree with this statement

6) I am more likely to help students with disabilities.
   1 – I strongly disagree with this statement
   2 – I mildly disagree with this statement
   3 – I neither agree nor disagree with this statement
   4 – I mildly agree with this statement
   5 – I strongly agree with this statement

7) I am more likely to help people, in general, who are disabled.
   1 – I strongly disagree with this statement
   2 – I mildly disagree with this statement
   3 – I neither agree nor disagree with this statement
   4 – I mildly agree with this statement
   5 – I strongly agree with this statement

8) I am more likely to help nondisabled people.
   1 – I strongly disagree with this statement
   2 – I mildly disagree with this statement
   3 – I neither agree nor disagree with this statement
   4 – I mildly agree with this statement
   5 – I strongly agree with this statement

9) I learned something new from a person with a disability.
   1 – I strongly disagree with this statement
   2 – I mildly disagree with this statement
   3 – I neither agree nor disagree with this statement
   4 – I mildly agree with this statement
   5 – I strongly agree with this statement

10) I had a good educational experience.
   1 – I strongly disagree with this statement
   2 – I mildly disagree with this statement
   3 – I neither agree nor disagree with this statement
   4 – I mildly agree with this statement
   5 – I strongly agree with this statement

11) I am a more responsible person.
   1 – I strongly disagree with this statement
   2 – I mildly disagree with this statement
   3 – I neither agree nor disagree with this statement
   4 – I mildly agree with this statement
   5 – I strongly agree with this statement

12) I am better at teaching others.
1 – I strongly disagree with this statement
2 – I mildly disagree with this statement
3 – I neither agree nor disagree with this statement
4 – I mildly agree with this statement
5 – I strongly agree with this statement

13) I was embarrassed to be seen with the student.
1 – I strongly disagree with this statement
2 – I mildly disagree with this statement
3 – I neither agree nor disagree with this statement
4 – I mildly agree with this statement
5 – I strongly agree with this statement

14) The student with a disability did things that embarrassed me in front of others.
1 – I strongly disagree with this statement
2 – I mildly disagree with this statement
3 – I neither agree nor disagree with this statement
4 – I mildly agree with this statement
5 – I strongly agree with this statement

15) The student with a disability demanded more of me than I felt comfortable with.
1 – I strongly disagree with this statement
2 – I mildly disagree with this statement
3 – I neither agree nor disagree with this statement
4 – I mildly agree with this statement
5 – I strongly agree with this statement

16) I was teased by other students.
1 – I strongly disagree with this statement
2 – I mildly disagree with this statement
3 – I neither agree nor disagree with this statement
4 – I mildly agree with this statement
5 – I strongly agree with this statement

17) I lost friends.
1 – I strongly disagree with this statement
2 – I mildly disagree with this statement
3 – I neither agree nor disagree with this statement
4 – I mildly agree with this statement
5 – I strongly agree with this statement

18) In the beginning, I was scared.
1 – I strongly disagree with this statement
2 – I mildly disagree with this statement
3 – I neither agree nor disagree with this statement
4 – I mildly agree with this statement
5 – I strongly agree with this statement

19) I missed out on other, more valuable educational experiences.
1 – I strongly disagree with this statement
2 – I mildly disagree with this statement
3 – I neither agree nor disagree with this statement
4 – I mildly agree with this statement
5 – I strongly agree with this statement

20) At first, I did not think I would learn much in this class.
1 – I strongly disagree with this statement
2 – I mildly disagree with this statement
3 – I neither agree nor disagree with this statement
4 – I mildly agree with this statement
5 – I strongly agree with this statement

Items taken from:

Helmstetter, E., Peck, C. A., & Giangreco, M. F. (1994). Outcomes of interactions with peers with moderate or severe disabilities: A statewide survey of high school students. Journal of the Association for Persons with Severe Handicaps, 19(4), 263-276. Items used with permission.

Appendix B

Peer Tutor Interview

1) What, if anything, did you learn from this class?

What word would you use to describe your feelings before you took this class?

2) Did this class change the way you feel about individuals with disabilities? If so, how did your feelings change?

What word would you use to describe your feelings now?

3) How would you describe your feelings or attitudes toward individuals with disabilities before you took this class?

4) What things about this class or your experiences with the students bothered you?

5) Will you use anything you learned in this class after this class is over? If so, what is it you will use?

Appendix C

Peer Tutor Open-Ended Questions

1. What do you hope to learn from this class this semester?

2. Do you think individuals with learning disabilities deserve to have their privacy protected? Should they be able to keep their learning disability private? Why or why not?

3. Do you think it is appropriate to use the word "retarded" to refer to others in an insulting way? Is such a statement appropriate? Why or why not?

4. How do you think individuals with disabilities are portrayed on television, in the movies, and in the print media? Are people treated differently depending on their specific disability?

5. What have you learned so far in this class? Is it what you expected to learn? Explain.

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